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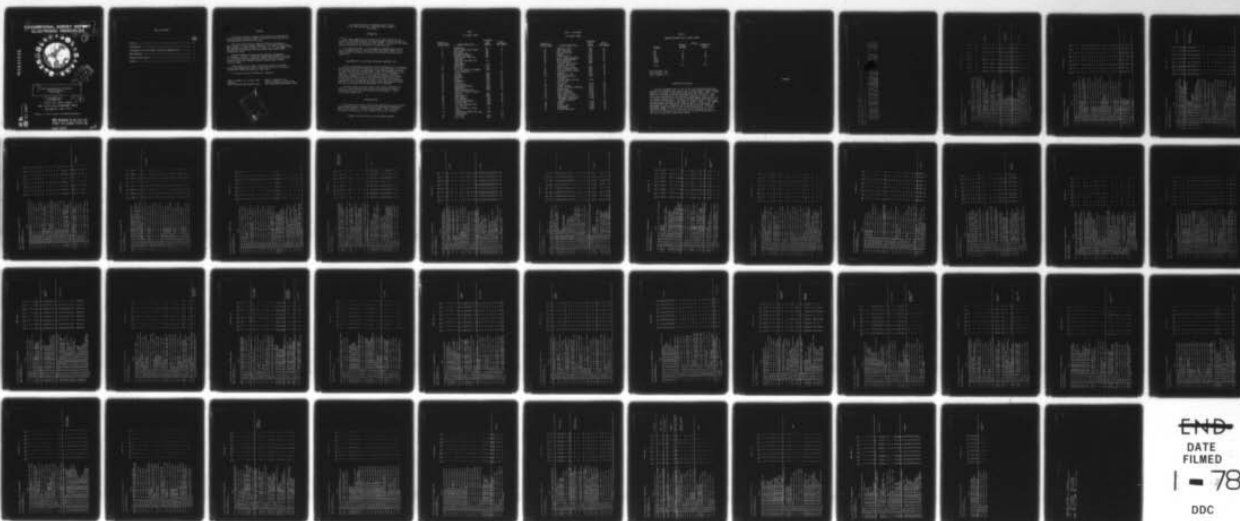
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**OCCUPATIONAL SURVEY REPORT**  
**ELECTRONIC PRINCIPLES**

Apr-Jun 77.

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AFSC 34156

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## PREFACE

This report presents a summary of the results of a detailed Air Force Electronic Principles Survey of the Digital Navigation/Tactics Training Devices Specialist, AFSC 34156.

The Electronic Principles Inventory (EPI) was developed by Major Thomas J. O'Connor and Mr. Hendrick W. Ruck and the survey data were analyzed by Captain Frederick B. Bower, Jr. All are members of the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB, Texas.

Computer programs for analyzing the data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Distribution of this report is made upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Lackland AFB, Texas 78236.

This report has been reviewed and is approved.

JAMES A. TURNER, JR., Colonel, USAF  
Commander  
USAF Occupational Measurement Center

WALTER E. DRISKILL, Ph.D.  
Chief, Occupational Survey Branch  
USAF Occupational Measurement Center

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ELECTRONIC PRINCIPLES OCCUPATIONAL SURVEY REPORT  
DIGITAL NAVIGATION/TACTICS TRAINING DEVICES SPECIALIST  
AFSC 34156

INTRODUCTION

↘ This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Digital Navigation/Tactics Training Devices Specialists (AFSC 34156). The data for this report were collected during the period April through June 1977. ↘

∘ This report describes: (1) development and administration of the survey instrument; and (2) electronic principles used by DAFSC 5-skill level personnel both CONUS and overseas and assigned to selected major commands. ←

DEVELOPMENT OF THE ELECTRONIC PRINCIPLES INVENTORY (EPI)

The EPI was developed by personnel from the Occupational Survey Branch who were well qualified in theoretical physics and electronics, as well as in task analysis and survey development. Over 300 maintenance personnel from SAC, TAC, ADC, MAC, and AFCS participated in the development of the inventory. Representing the five ATC training centers, electronics experts who averaged 12 years of maintenance experience and four years of electronic principles instruction experience spent several weeks refining the EPI. In addition, personnel at the Electrical Engineering Department of the USAF Academy and the Air Force Human Resources Laboratory were consulted during the development of the inventory.

The final version of the EPI used in this survey contained 1,257 items in 62 subject matter areas covering all electronic principles training given at the five ATC technical training centers. Table 1 lists the 62 subject areas.

ADMINISTRATION

The Electronic Principles Inventory was administered by mail to AFSC 34156 airmen worldwide. Responses from 105 individuals represented 74 percent of the total of all AFSC 34156 personnel. Table 2 shows the percentage distribution by major command of the survey incumbents.

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TABLE 1  
EPI SUBJECT AREAS

<u>SEQUENCE OF SUBJECT AREAS</u>	<u>SUBJECT AREA TITLE</u>	<u>BEGINNING ITEM NUMBER</u>	<u>GPSUM PAGE NUMBER</u>
1	MATHEMATICS	A1	2
2	DIRECT CURRENT AND VOLTAGE	A15	2
3	RESISTANCE	A24	2
4	MULTIMETER USES	B52	3
5	ALTERNATING CURRENT	B61	4
6	INDUCTORS AND INDUCTIVE REACTANCE	B67	4
7	CAPACITORS AND CAPACITIVE REACTANCE	C92	5
8	TRANSFORMERS	C128	6
9	MAGNETISM	C171	7
10	RCL CIRCUITS	D185	8
11	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)	D229	10
12	FILTERS	D239	10
13	COUPLING	E261	11
14	SOLDERING	E273	11
15	RELAYS	E295	12
16	MICROPHONES	F314	12
17	SPEAKERS	F327	13
18	OSCILLOSCOPES	F342	13
19	SEMICONDUCTOR DIODES	G354	13
20	TRANSISTORS	G404	15
21	TRANSISTOR AMPLIFIERS	G428	16
22	SOLID-STATE SPECIAL PURPOSE DEVICES	H477	19
23	POWER SUPPLIES	H483	19
24	OSCILLATORS	H512	19
25	MULTIVIBRATORS	I539	20
26	LIMITERS AND CLAMPERS	I555	21
27	ELECTRON TUBES	I565	21
28	ELECTRON TUBE AMPLIFIERS AND CIRCUITS	J609	22
29	SPECIAL PURPOSE ELECTRON TUBES	J616	23
30	HETERODYNING, MODULATION, AND DEMODULATION	J632	23
31	AM SYSTEMS	K638	23
32	FM SYSTEMS	K666	24

TABLE 1 (CONTINUED)

## EPI SUBJECT AREAS

<u>SEQUENCE OF SUBJECT AREAS</u>	<u>SUBJECT AREA TITLE</u>	<u>BEGINNING ITEM NUMBER</u>	<u>GPSUM PAGE NUMBER</u>
33	NUMBERING SYSTEMS	K685	25
34	LOGIC FUNCTIONS	L695	25
35	BOOLEAN EQUATIONS	L708	26
36	COUNTERS	L733	27
37	TIMING CIRCUITS	M757	27
38	USE OF SIGNAL GENERATORS	M769	28
39	MOTORS AND GENERATORS	M779	28
40	METER MOVEMENTS	N808	29
41	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS	N818	29
42	WAVESHAPING CIRCUITS	N834	30
43	SINGLE SIDEBAND SYSTEMS	O845	30
44	PULSE MODULATION SYSTEMS	O875	31
45	ANTENNAS	O914	32
46	TRANSMISSION LINES	P953	34
47	WAVEGUIDES AND CAVITY RESONATORS	P984	35
48	MICROWAVE AMPLIFIERS AND OSCILLATORS	P1034	37
49	REGISTERS	Q1110	39
50	STORAGE DEVICES	Q1117	40
51	DIGITAL TO ANALOG CONVERTERS	Q1126	40
52	PHANTASTRONS	Q1140	41
53	SCHMITT TRIGGERS	R1141	41
54	CABLE FABRICATION	R1144	41
55	INPUT/OUTPUT DEVICES	S1146	41
56	PHOTO SENSITIVE DEVICES	S1149	41
57	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)	S1150	41
58	INFRARED	T1159	41
59	LASERS	T1186	42
60	DISPLAY TUBES	T1220	43
61	PROGRAMMING	U1234	43
62	DB AND POWER RATIOS	U1255	44

TABLE 2  
COMMAND REPRESENTATION OF SURVEY SAMPLE

<u>COMMAND</u>	34156	
	<u>PERCENT ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
ATC	5	7
MAC	3	5
SAC	22	24
TAC	56	59
USAFE	12	2
PACAF	2	1
OTHER	-	2
TOTAL	100	100

Total Assigned - 146  
Total Sampled - 105  
Percent Sampled - 74%

#### PRESENTATION OF RESULTS

Personnel responded "yes" or "no" to the 1,257 electronic principles questions as related to their present job. A Group Summary (GPSUM) computer printout is provided in the Appendix portion of this report. Page 1 of the GPSUM lists the eight selected groups identified for this report. Pages 2-44 show the percentage of the incumbents responding to the EPI items. The computer program results display the percent members answering "yes" to the subject area questions. The reader can locate a specific subject area by referring to the Appendix page number as listed in Table 1. For example, the Transformers area results are given on pages 6-7 of the GPSUM. The percentage of survey respondents indicating use of specific electronic principles ranged from high in areas such as Soldering (pp. 11-12) and Numbering Systems (p. 25) to low in areas such as Infrared and Lasers (pp. 41-43). Additional AFSC 34156 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX



# PCT MARS RESPONDING 'YES' BY SELECTED GRPS

OPSUM6 PAGE 1

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS  
IN THE 34146 CAMEL FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY	SPC126	ALL AIRMEN DAFSC 34156	STATIONED IN COM	CONTAINING	105 MEMBERS
GROUP IDENTITY	SPC127	ALL AIRMEN DAFSC 34156	STATIONED OVERSEA	CONTAINING	100 MEMBERS
GROUP IDENTITY	SPC128	ALL AIRMEN DAFSC 34156	ASSIGNED TO ATC	CONTAINING	5 MEMBERS
GROUP IDENTITY	SPC129	ALL AIRMEN DAFSC 34156	ASSIGNED TO MAC	CONTAINING	7 MEMBERS
GROUP IDENTITY	SPC130	ALL AIRMEN DAFSC 34156	ASSIGNED TO SAC	CONTAINING	6 MEMBERS
GROUP IDENTITY	SPC131	ALL AIRMEN DAFSC 34156	ASSIGNED TO TAC	CONTAINING	25 MEMBERS
GROUP IDENTITY	SPC132	ALL AIRMEN DAFSC 34156	ASSIGNED TO USAF	CONTAINING	64 MEMBERS
GROUP IDENTITY	SPC133	ALL AIRMEN DAFSC 34156	ASSIGNED TO USAF	CONTAINING	2 MEMBERS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

## DY-TASK

	126	127	128	129	130	131	132	133	
A 1 A1-01 DO YOU USE INSTRUMENTS, SUCH AS METERS OR OSCILLOSCOPES, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.	94	94	100	86	100	92	95	100	
A 2 A1-02 DO YOU USE PUBLICATIONS, SUCH AS A TECHNICAL ORDERS OR MAINTENANCE MANUALS, IN WHICH IT IS NECESSARY FOR YOU TO MULTIPLY OR DIVIDE BY A POWER OF 10 BEFORE YOU CAN APPLY THE INFORMATION FROM THE PUBLICATION IN A USEFUL WAY ON THE JOB.	55	53	100	14	50	56	56	100	
A 3 A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	63	62	80	29	50	80	60	50	MATHEMATICS
A 4 A1-04 DO YOU CALCULATE THE SQUARE ROOT OF A QUANTITY.	37	35	80	29	17	36	37	50	
A 5 A1-05 DO YOU SOLVE FOR UNKNOWN QUANTITIES.	46	44	80	29	17	52	45	50	
A 6 A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	23	20	80	29	0	28	18	50	
A 7 A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	27	24	80	29	0	32	23	50	
A 8 A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	25	23	60	14	0	24	26	0	
A 9 A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS.	19	16	80	14	0	20	16	50	
A 10 A1-10 DO YOU PERFORM CALCULATIONS ON VECTOR QUANTITIES.	46	44	80	43	0	48	47	50	
A 11 A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	72	72	85	71	33	92	68	50	
A 12 A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES.	27	27	20	14	0	37	29	0	
A 13 A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	27	25	60	14	0	28	27	0	
A 14 A1-14 DO YOU SOLVE OR USE PROPORTIONS.	45	44	60	43	17	60	40	0	
A 15 A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT (V).	99	99	100	86	100	100	100	100	DIRECT CURRENT AND VOLTAGE
A 16 A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	58	58	60	57	83	52	58	0	
A 17 A2-03 DO YOU USE THE TERM OHM.	97	97	100	86	100	100	97	100	
A 18 A2-04 DO YOU USE THE TERM ION.	29	27	60	14	17	28	29	0	
A 19 A2-05 DO YOU USE THE TERM DYNE.	19	19	20	14	17	24	18	0	
A 20 A2-06 DO YOU USE THE TERM AMPERE.	96	96	100	86	100	100	95	100	
A 21 A2-07 DO YOU USE THE TERM NEUTRON.	24	23	40	29	17	36	16	0	
A 22 A2-08 DO YOU USE THE TERM COULOMB.	31	31	40	14	33	40	29	0	
A 23 A2-09 DO YOU USE THE TERM PROTON.	23	22	40	29	17	32	18	0	
A 24 A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	88	89	60	71	100	92	89	50	RESISTANCE
A 25 A3-02 DO YOU INSPECT RESISTORS.	90	90	100	86	83	88	92	100	
A 26 A3-03 DO YOU CLEAN RESISTORS.	72	72	80	57	63	64	76	50	
A 27 A3-04 DO YOU ADJUST RESISTORS.	90	91	80	86	83	96	90	50	
A 28 A3-05 DO YOU CHECK OHMIC VALUE OR RESISTORS.	94	94	100	86	100	96	94	100	
A 29 A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	95	95	100	86	100	96	95	100	
A 30 A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS YOU PERFORM.	41	40	60	43	50	56	32	50	
A 31 A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS SUCH AS FIXED RESISTOR SYMBOLS OR TAPPED RESISTOR SYMBOLS.	95	95	100	86	100	96	95	100	
A 32 A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT, OR POTENTIOMETER.	90	90	100	71	83	96	90	100	
A 33 A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE OHMIC VALUE OF RESISTANCE.	94	94	100	71	83	96	97	100	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UY-TSK

[illegible]

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

MC 1-10

Q1-12A

			SPT	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	
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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UT-13A												
	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
	126	127	128	129	130	131	132	133				
C 121 C1-30 DO YOU WORK WITH MOTOR-STATOR (VARIABLE) CAPACITORS	44	44	40	71	33	56	37	50				
C 122 C1-31 DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS	44	43	60	24	50	56	39	50				
C 123 C1-32 DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS	93	93	100	86	100	96	92	100				
C 124 C1-33 DO YOU WORK WITH PAPER (FIXED) CAPACITORS	81	80	100	86	100	80	77	100				
C 125 C1-34 DO YOU WORK WITH MICA (FIXED) CAPACITORS	85	84	100	86	100	88	81	100				
C 126 C1-35 DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS	85	84	100	86	100	88	81	100				
C 127 C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS	13	13	20	0	17	16	13	0				
C 128 C2-01 DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JOB	80	80	80	71	67	84	81	100				
C 129 C2-02 DO YOU INSPECT TRANSFORMERS	77	76	100	57	67	76	79	100				
C 130 C2-03 DO YOU CLEAN TRANSFORMERS	54	56	20	29	67	48	61	50				
C 131 C2-04 DO YOU ADJUST TRANSFORMERS	44	46	0	57	0	60	44	0				
C 132 C2-05 DO YOU TROUBLESHOOT TRANSFORMERS	77	77	80	57	33	76	84	50				
C 133 C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS	87	86	100	71	67	96	85	100				
C 134 C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING	11	12	0	0	0	16	13	0				
C 135 C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTANCE AND MUTUAL INDUCTANCE (M)	8	8	0	0	0	8	10	0				
C 136 C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M	10	11	0	14	0	12	11	0				
C 137 C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS	19	20	0	14	0	28	19	0				
C 138 C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS	20	21	0	29	0	24	21	0				
C 139 C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS	13	14	0	14	0	20	13	0				
C 140 C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS	11	12	0	14	0	12	13	0				
C 141 C2-14 DO YOU WORK WITH AUTOTRANSFORMERS	36	36	40	0	0	40	42	50				
C 142 C2-15 DO YOU WORK WITH POWER TRANSFORMERS	83	82	100	71	67	92	81	100				
C 143 C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS	61	60	80	57	50	68	58	50				
C 144 C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS	38	39	20	29	50	48	35	0				
C 145 C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS	10	11	0	0	17	8	13	0				
C 146 C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE	78	77	100	57	50	84	79	100				
C 147 C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE	72	71	100	57	50	76	73	100				
C 148 C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES	61	61	60	43	67	76	56	0				
C 149 C2-22 DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	40	40	40	14	0	60	39	0				
C 150 C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	51	51	60	29	33	76	45	50				
C 151 C2-24 DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS	84	83	100	71	67	84	85	100				

TRANSFORMERS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

## 2Y-TSK

[illegible]



TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UY-TSK

[illegible]











# PCT MANS RESPONDING 'YES' BY SELECTED GRPS

GPSUM6 PAGE 13

## TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING

### LT-TSK

F 327	F2-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	69	67	100	29	50	72	71	100	SPEAKERS
F 328	F2-02	DO YOU INSPECT SPEAKERS	63	61	100	29	50	64	65	100	
F 329	F2-03	DO YOU CLEAN SPEAKERS	49	49	40	29	33	48	53	50	
F 330	F2-04	DO YOU OPERATE SPEAKERS	63	62	80	29	33	60	69	50	
F 331	F2-05	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS	60	58	100	29	50	64	69	100	
F 332	F2-06	DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	15	16	0	0	0	12	21	0	
F 333	F2-07	DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	59	57	100	29	50	68	56	100	
F 334	F2-08	DO YOU REMOVE OR REPLACE SPEAKER PARTS	12	13	0	0	0	16	15	0	
F 335	F2-09	DO YOU PERFORM ANY TASKS ON SPEAKER CONES	13	13	20	0	17	12	15	50	
F 336	F2-10	DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	4	4	0	0	0	12	2	0	
F 337	F2-11	DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	7	7	0	0	0	12	6	0	
F 338	F2-12	DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	8	8	0	0	0	16	6	0	
F 339	F2-13	DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	12	13	0	0	17	24	10	0	
F 340	F2-14	DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	10	11	0	0	17	24	6	0	
F 341	F2-15	DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	4	4	0	0	0	12	7	0	
F 342	F3-01	DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	94	94	100	66	100	86	97	100	
F 343	F3-02	DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	93	93	100	86	100	92	94	100	
F 344	F3-03	DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	93	93	100	86	100	92	94	100	
F 345	F3-04	DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	93	93	100	66	100	88	95	100	
F 346	F3-05	DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	90	91	80	71	100	86	94	100	
F 347	F3-06	DO YOU USE OSCILLOSCOPES TO MEASURE TIME	92	93	80	66	100	88	95	100	
F 348	F3-07	DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	46	47	20	57	17	64	42	0	
F 349	F3-08	DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	85	85	80	66	50	88	87	100	
F 350	F3-09	DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	83	82	100	71	63	88	81	100	
F 351	F3-10	DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	95	95	100	86	100	92	97	100	
F 352	F3-11	DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROL	81	80	100	86	83	80	74	100	
F 353	F3-12	DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	97	97	100	86	100	92	100	100	
G 354	G1-01	DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	88	89	80	86	100	88	86	50	
G 355	G1-02	DO YOU INSPECT DIODES	85	84	100	71	100	80	85	100	
G 356	G1-03	DO YOU REMOVE OR REPLACE DIODES	90	90	80	71	100	88	92	50	
G 357	G1-04	DO YOU CHECK DIODES USING AN INSTRUMENT	90	89	100	86	100	88	89	100	
G 358	G1-05	DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	9	8	40	0	0	20	5	50	
G 359	G1-06	DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE BIAS RESISTANCE	25	24	40	14	17	32	23	50	
G 360	G1-07	DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	30	28	60	43	0	44	23	50	

SEMICONDUCTOR  
DIODES

# PCT MEMS RESPONDING \*YES\* BY SELECTED GRPS

GPSUM6 PAGE 14

## TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING

VI-12A

	126	127	128	129	130	131	132	133
361 GI-18 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	68	66	100	57	67	60	66	100
362 GI-19 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	76	75	100	86	100	80	69	100
363 GI-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF COPIING ON CURRENT FLOW	16	15	40	14	17	12	16	50
364 GI-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	62	60	100	71	67	66	55	100
365 GI-12 DO YOU USE OR REFER TO DIODE COLOR CODING	37	35	80	29	50	44	31	100
366 GI-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	5	5	0	0	0	16	2	0
367 GI-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	4	4	0	0	0	12	2	0
368 GI-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 53B	83	82	100	86	100	88	77	100
369 GI-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	5	5	0	0	0	16	2	0
370 GI-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	5	5	0	0	0	16	2	0
371 GI-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	59	58	80	71	67	64	53	100
372 GI-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	8	8	0	0	0	20	5	0
373 GI-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	7	7	0	0	0	16	5	0
374 GI-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	7	7	0	0	0	16	5	0
375 GI-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	8	8	0	0	0	20	5	0
376 GI-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	8	8	0	0	0	20	5	0
377 GI-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	89	88	100	86	100	40	90	100
378 GI-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	30	29	60	29	33	24	31	100
379 GI-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)	50	50	60	43	50	60	47	50
380 GI-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)	29	29	20	14	17	32	31	0
381 GI-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	72	71	100	71	50	76	71	100
382 GI-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	13	13	20	14	0	28	6	0









# PCT MEMBERS RESPONDING 'YES' BY SELECTED GROUPS

GPSUMA PAGE 17

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UY-TSA

	SPC 126	SPC 127	SPC 128	SPC 129	SPC 130	SPC 131	SPC 132	SPC 133
Q 437 G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT	33	32	60	29	17	60	23	0
Q 438 G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	19	17	60	29	0	32	11	50
Q 439 G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	36	34	80	43	0	50	27	50
Q 440 G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL	22	19	80	43	0	36	11	50
Q 441 G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)	12	13	0	14	0	20	0	0
Q 442 G3-15 DO YOU USE OR REFER TO THE OPERATING POINT (Q) (QUIESCENT POINT) FOR A TRANSISTOR	14	19	0	29	17	36	11	0
Q 443 G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	10	11	0	29	0	24	5	0
Q 444 G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	50	50	60	57	17	56	50	0
Q 445 G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	34	35	20	43	0	44	34	0
Q 446 G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	32	33	40	43	0	40	32	0
Q 447 G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN	11	11	20	14	0	24	4	0
Q 448 G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN	10	10	20	14	0	24	5	0
Q 449 G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN	13	13	20	14	0	24	10	0
Q 450 G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES WHICH AFFECTS THE STATIC OPERATING POINT (Q) OF THE TRANSISTOR	18	18	20	29	0	28	15	0
Q 451 G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT (Q) OF A TRANSISTOR AT DIFFERENT TEMPERATURES	6	8	0	14	0	16	5	0
Q 452 G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMAL (TEMPERATURE) FEEDBACK (SAMPLING) RESISTOR STABILIZATION	43	41	40	43	17	52	39	100
Q 453 G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION	38	36	80	57	17	48	31	100

PCT MKRS RESPONDING \*YES\* BY SELECTED GRPS

GPSUMA PAGE 18

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0Y-TSK

NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
126	127	128	129	130	131	132	133		
36	34	60	57	17	48	27	100		
41	39	80	57	17	52	34	100		
41	39	80	57	17	52	34	100		
38	36	80	57	17	48	31	100		
45	43	80	29	17	56	42	100		
42	40	80	29	17	52	39	100		
37	35	80	29	0	48	34	100		
44	42	80	29	17	60	39	100		
43	41	80	29	17	60	37	100		
37	35	80	29	17	52	31	100		
50	50	60	29	50	52	52	50		
62	60	100	43	50	60	63	100		
44	42	80	14	50	48	42	100		
39	38	60	0	17	44	42	50		
39	38	60	0	17	44	42	50		
46	44	80	14	50	48	45	100		
30	28	80	29	17	36	24	50		
36	36	40	29	0	48	35	0		
31	31	40	0	17	36	34	50		
70	69	100	57	50	64	74	100		
51	51	60	29	33	56	53	50		
50	49	60	29	33	56	50	50		

G 454 G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION  
 G 455 G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION  
 G 456 G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION  
 G 457 G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION  
 G 458 G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION  
 G 459 G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION  
 G 460 G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION  
 G 461 G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION  
 G 462 G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION  
 G 463 G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION  
 G 464 G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS  
 G 465 G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION  
 G 466 G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS  
 G 467 G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS  
 G 468 G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION  
 G 469 G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION  
 G 470 G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR TRANSISTOR AMPLIFIERS IN THE COMMON COLLECTOR CONFIGURATION  
 G 471 G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS  
 G 472 G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS  
 G 473 G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS  
 G 474 G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS  
 G 475 G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS

PCT MBRS RESPONDING • YES • BY SELECTED GRPS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0Y-7SK

DT-75K											
Q	476	G3-49	DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	54	53	60	29	33	52	54	50
M	477	H1-01	DO YOU USE OR REFER TO VARIATORS	36	35	60	14	17	52	32	50
M	478	H1-02	DO YOU USE OR REFER TO TUNNEL DIODES	45	43	80	29	50	48	42	100
M	479	H1-03	DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	76	75	100	71	83	88	59	100
M	480	H1-04	DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	62	60	100	43	67	72	56	100
M	481	H1-05	DO YOU USE OR REFER TO ZENER DIODES	90	90	100	71	100	92	90	100
M	482	H1-06	DO YOU USE OR REFER TO INTEGRATED CIRCUITS	93	93	100	71	100	92	95	100
M	483	H2-01	IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	95	95	100	86	100	92	97	100
M	484	H2-02	DO YOU INSPECT POWER SUPPLIES	91	91	100	86	83	86	94	100
M	485	H2-03	DO YOU CLEAN POWER SUPPLIES	81	80	100	71	83	80	81	100
M	486	H2-04	DO YOU ALIGN OR ADJUST POWER SUPPLIES	94	94	100	86	83	92	97	100
M	487	H2-05	DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	92	92	100	71	100	98	95	100
M	488	H2-06	DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	86	85	100	71	100	84	65	100
M	489	H2-07	DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	94	94	100	71	100	92	97	100
M	490	H2-08	DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	82	81	100	57	100	84	81	100
M	491	H2-09	DO YOU WORK WITH HALF-WAVE RECTIFIERS	76	75	100	71	67	72	77	100
M	492	H2-10	DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	82	81	100	71	67	80	84	100
M	493	H2-11	DO YOU WORK WITH BRIDGE RECTIFIERS	80	79	100	57	67	80	82	100
M	494	H2-12	DO YOU WORK WITH THREE-PHASE RECTIFIERS	52	52	60	29	50	60	52	50
M	495	H2-13	DO YOU USE OR REFER TO INPUT VOLTAGE	86	85	100	71	50	88	89	100
M	496	H2-14	DO YOU USE OR REFER TO INPUT FREQUENCY	67	65	100	57	50	76	63	100
M	497	H2-15	DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	77	76	100	57	50	80	79	100
M	498	H2-16	DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	65	63	100	71	50	76	58	100
M	499	H2-17	DO YOU USE OR REFER TO RIPPLE AMPLITUDE	69	67	100	43	33	72	71	100
M	500	H2-18	DO YOU USE OR REFER TO RIPPLE FREQUENCY	62	60	100	43	33	68	61	100
M	501	H2-19	DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	44	43	100	43	33	40	44	100
M	502	H2-20	DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	73	72	100	71	50	76	73	100
M	503	H2-21	DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	74	73	100	57	50	86	71	100
M	504	H2-22	DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	77	77	80	71	50	88	76	100
M	505	H2-23	DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	64	64	60	43	50	80	61	50
M	506	H2-24	DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	54	53	60	43	33	70	47	100
M	507	H2-25	DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	47	45	80	43	33	64	39	100
M	508	H2-26	DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	44	42	80	29	17	60	39	100
M	509	H2-27	DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	46	44	80	29	17	64	40	100
M	510	H2-28	DO YOU WORK WITH CIRCUITS WHICH EMPLOY DUMPT REMEMBER WHICH TYPE OF FILTER	34	35	20	29	67	20	39	0
M	511	H2-29	DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	11	11	20	0	17	12	11	50
M	512	H3-01	DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	65	66	40	57	67	60	69	50
OSCILLATORS											



TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSK

	SPC	126	127	128	129	130	131	132	133	
M 513 M3-02 DO YOU INSPECT OSCILLATORS	57	57	60	29	50	50	56	61	100	
M 514 M3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	57	57	60	43	67	67	56	54	100	
M 515 M3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	59	60	40	43	50	40	48	52	50	
M 516 M3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	50	50	40	43	50	40	48	52	50	
M 517 M3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	64	64	60	57	67	67	60	62	100	
M 518 M3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	53	53	60	57	67	67	52	52	100	
M 519 M3-08 DO YOU USE OR REFER TO FEEDBACK	58	58	60	57	50	60	50	54	100	
M 520 M3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	36	36	40	29	50	50	44	32	50	
M 521 M3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	38	38	40	29	17	17	56	34	50	
M 522 M3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	44	44	40	43	17	17	56	42	50	
M 523 M3-12 DO YOU USE OR REFER TO DAMPING	43	43	40	43	50	44	44	42	50	
M 524 M3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	52	52	60	57	50	52	52	52	100	
M 525 M3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	20	21	0	14	0	36	18	0	0	
M 526 M3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	25	25	20	0	17	36	24	0	0	
M 527 M3-16 DO YOU USE OR REFER TO UNDER DAMPING	23	23	20	0	0	32	24	0	0	
M 528 M3-17 DO YOU USE OR REFER TO OVER DAMPING	23	23	20	0	0	32	24	0	0	
M 529 M3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	37	36	60	29	17	36	39	39	100	
M 530 M3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	45	44	60	43	17	40	48	48	100	
M 531 M3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	30	29	60	29	0	44	26	100		
M 532 M3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	24	25	0	14	50	12	29	0	0	
M 533 M3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	22	23	0	29	0	28	21	0	0	
M 534 M3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	21	22	0	29	0	28	21	0	0	
M 535 M3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	20	21	0	43	0	24	16	0	0	
M 536 M3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	8	8	0	0	0	6	10	0	0	
M 537 M3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	7	7	0	0	0	8	8	0	0	
M 538 M3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	35	35	40	14	50	32	37	50		
I 539 I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	70	70	80	29	50	72	76	100		
I 540 I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	59	58	80	29	50	60	61	100		
I 541 I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	61	60	80	29	50	64	63	100		MULTIVIBRATORS
I 542 I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	55	54	80	29	50	64	53	100		
I 543 I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	64	63	80	29	50	72	65	100		
I 544 I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	61	60	80	29	33	68	63	100		
I 545 I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	63	62	80	29	33	68	66	100		
I 546 I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	60	59	80	29	33	64	63	100		
I 547 I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	35	34	60	14	0	44	35	50		

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

		BY-TSA											
		SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
		126	127	128	129	130	131	132	133	134	135	136	137
1 548 11-16 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS		42	41	60	14	0	52	44	50				
1 549 11-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS		26	26	20	0	17	40	24	50				
1 550 11-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FFO		29	30	0	0	33	28	34	0				
1 551 11-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS		53	52	80	14	50	52	56	100				
1 552 11-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS		67	66	80	29	50	68	71	100				
1 553 11-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS		67	66	80	29	50	64	73	100				
1 554 11-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS		10	11	0	0	17	8	13	0				
1 565 12-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB		60	59	80	57	50	60	60	100				
1 566 12-02 DO YOU WORK WITH SERIES DIODE LIMITERS		44	43	60	43	33	56	39	50				
1 567 12-03 DO YOU WORK WITH SHUNT DIODE LIMITERS		45	44	60	43	33	52	42	50				
1 568 12-04 DO YOU WORK WITH LIMITERS WITH BIAS		39	39	40	43	33	52	34	50				
1 569 12-05 DO YOU WORK WITH ZENER DIODE LIMITERS		50	49	80	43	33	60	47	100				
1 560 12-06 DO YOU WORK WITH TRANSISTOR LIMITERS		47	45	80	29	33	60	42	100				
1 561 12-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS		19	19	20	0	33	0	27	50				
1 562 12-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS		39	37	80	57	33	48	31	100				
1 563 12-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS		37	37	40	57	33	52	29	50				
1 564 12-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT		24	24	20	0	33	6	32	50				
1 565 13-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES		33	34	20	43	67	44	26	50				
1 566 13-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD		33	34	20	43	67	44	26	50				
1 567 13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES		19	19	20	43	0	32	13	50				
1 568 13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES		27	28	0	43	50	40	19	0				
1 569 13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES		28	29	0	43	67	44	18	0				
1 570 13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES		26	26	20	29	50	44	16	50				
1 571 13-07 DO YOU USE OR REFER TO CUTOFF		20	21	0	14	33	36	15	0				
1 572 13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING		14	15	0	14	33	20	11	0				
1 573 13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING		15	16	0	14	33	24	11	0				
1 574 13-10 DO YOU USE OR REFER TO TRANSIT TIME		13	14	0	14	33	20	10	0				
1 575 13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING		12	13	0	0	33	20	10	0				
1 576 13-12 DO YOU USE OR REFER TO SATURATION		28	28	20	29	67	36	21	50				
1 577 13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE		17	18	0	29	33	24	13	0				
1 578 13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES		4	4	0	0	0	4	5	0				
1 579 13-15 DO YOU USE OR REFER TO PLATE VOLTAGE		28	28	20	29	50	36	23	50				
1 580 13-16 DO YOU USE OR REFER TO PLATE CURRENT		25	25	20	29	33	36	19	50				
1 581 13-17 DO YOU USE OR REFER TO GRID VOLTAGE		31	32	20	29	67	44	24	50				
1 582 13-18 DO YOU USE OR REFER TO GRID CURRENT		27	27	20	29	33	44	19	50				
1 583 13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE		30	31	20	29	50	44	24	50				
1 584 13-20 DO YOU USE OR REFER TO CATHODE CURRENT		26	28	20	29	33	44	21	50				
1 585 13-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)		4	4	0	0	0	8	3	0				

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSK

	106	127	128	129	130	131	132	133	
1 586 13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	2	2	0	0	0	4	2	0	
1 587 13-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	6	6	0	29	0	8	3	0	
1 588 13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G <sub>m</sub> WHICH IS MEASURED IN MHOS)	3	3	0	0	0	4	3	0	
1 589 13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	3	3	0	0	0	4	3	0	
1 590 13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	4	4	0	14	0	4	3	0	
1 591 13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	4	4	0	14	0	4	3	0	
1 592 13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	4	3	20	0	0	4	3	50	
1 593 13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	6	6	0	14	0	4	6	0	
1 594 13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	7	7	0	0	0	12	6	0	
1 595 13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	7	7	0	0	0	12	6	0	
1 596 13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	10	10	0	14	0	16	4	0	
1 597 13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	9	9	0	14	0	16	6	0	
1 598 13-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	18	19	0	29	0	32	15	0	
1 599 13-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	13	14	0	29	17	24	4	0	
1 600 13-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	11	12	0	43	0	16	4	0	
1 601 13-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	12	13	0	43	0	20	8	0	
1 602 13-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	20	20	20	43	17	36	11	50	
1 603 13-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	10	10	0	0	0	16	10	0	
1 604 13-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	3	3	0	0	0	6	2	0	
1 605 13-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	24	24	20	14	50	36	18	50	
1 606 13-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	29	29	20	29	67	40	21	50	
1 607 13-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON	7	7	0	14	0	16	3	0	
1 608 13-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	17	17	20	29	17	28	11	50	
1 609 13-45 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	17	17	20	43	17	16	15	50	ELECTRON TUBE AMPLIFIERS AND CIRCUITS
1 610 13-46 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	8	8	0	29	0	16	3	0	

## Task Group Summary

DEPENDENT MEMBERS PERFORMING

DT-TSK		SPC 126	SPC 127	SPC 128	SPC 129	SPC 130	SPC 131	SPC 132	SPC 133
J 611 JI-J3 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS		6	6	0	14	0	6	5	0
J 612 JI-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS		10	10	20	29	0	12	3	50
J 613 JI-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS		9	9	0	14	0	6	10	0
J 614 JI-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS		10	11	0	29	0	12	10	0
J 615 JI-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER		6	6	0	14	17	0	10	0
J 616 JZ-01 DO YOU WORK WITH GAS TUBES THAT CATHODE OR COLD CATHODE)		14	13	40	43	17	16	2	50
J 617 JZ-02 DO YOU WORK WITH CATHODE-RAY TUBES		43	43	40	57	67	56	34	50
J 618 JZ-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES		12	13	0	0	17	24	10	0
J 619 JZ-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED		15	16	0	0	33	24	13	0
J 620 JZ-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS		6	6	0	29	17	12	3	0
J 621 JZ-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED		6	6	0	29	17	12	3	0
J 622 JZ-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (ICMT)		36	36	40	43	67	48	27	50
J 623 JZ-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (ICMT)		39	39	40	57	67	48	31	50
J 624 JZ-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (ICMT)		32	32	40	57	67	36	24	50
J 625 JZ-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS		37	38	20	43	67	52	29	50
J 626 JZ-11 DO YOU USE OR REFER TO AQUADAG COATINGS		25	25	20	57	50	40	13	50
J 627 JZ-12 DO YOU USE OR REFER TO ELECTRON OPTICS		30	31	20	29	50	52	21	50
J 628 JZ-13 DO YOU USE OR REFER TO PERSISTENCE		31	32	20	43	67	40	24	50
J 629 JZ-14 DO YOU USE OR REFER TO DECAY TIMES		29	29	20	43	67	32	23	50
J 630 JZ-15 DO YOU USE OR REFER TO FLUORESCENCE		23	24	0	43	50	40	13	0
J 631 JZ-16 DO YOU USE OR REFER TO PHOSPHORESCENCE		32	34	0	57	50	48	24	0
J 632 JI-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB		13	13	20	0	0	12	16	50
J 633 JI-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS		9	9	0	0	0	6	11	0
J 634 JI-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS		6	6	0	0	0	6	10	0
J 635 JI-04 DO YOU USE OR REFER TO THE METERING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS		2	2	0	0	0	4	2	0
J 636 JI-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS		5	5	0	0	0	4	5	0
J 637 JI-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS		5	5	0	0	0	4	6	0
K 638 KI-01 DO YOU WORK ON A TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB		5	4	20	0	0	4	3	50
K 639 KI-02 DO YOU INSPECT A TRANSMIT OR RECEIVE SYSTEMS		4	4	0	0	0	4	5	0
K 640 KI-03 DO YOU CLEAN A TRANSMIT OR RECEIVE SYSTEMS		4	4	0	0	0	4	5	0
K 641 KI-04 DO YOU ALIGN OR ADJUST A TRANSMIT OR RECEIVE SYSTEMS		3	3	0	0	0	4	3	0



PCT MEMBERS RESPONDING "YES" BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

01-TSK

	126	127	128	129	130	131	132	133	
K 642 KI-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	4	4	0	0	0	4	5	0	
K 643 KI-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	4	4	0	0	0	4	5	0	
K 644 KI-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	4	4	0	0	0	4	5	0	
K 645 KI-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	3	3	0	0	0	4	3	0	
K 646 KI-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	3	3	0	0	0	4	3	0	
K 647 KI-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	3	3	0	0	0	4	3	0	
K 648 KI-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	3	3	0	0	0	4	3	0	
K 649 KI-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	3	3	0	0	0	4	3	0	
K 650 KI-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	3	3	0	0	0	4	3	0	
K 651 KI-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	2	2	0	0	0	0	3	0	
K 652 KI-15 DO YOU PERFORM TASKS ON DETECTORS	3	3	0	0	0	4	3	0	
K 653 KI-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	3	3	0	0	0	0	5	0	
K 654 KI-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	1	1	0	0	0	0	2	0	
K 655 KI-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	2	2	0	0	0	4	2	0	
K 656 KI-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	3	3	0	0	0	4	3	0	
K 657 KI-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	3	3	0	0	0	4	3	0	
K 658 KI-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	2	2	0	0	0	4	2	0	
K 659 KI-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	3	3	0	0	0	4	3	0	
K 660 KI-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	1	1	0	0	0	0	2	0	
K 661 KI-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	2	2	0	0	0	4	2	0	
K 662 KI-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	1	1	0	0	0	0	2	0	
K 663 KI-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	1	1	0	0	0	0	2	0	
K 664 KI-27 DO YOU TRACE SIGNALS OF CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	4	4	0	0	0	4	5	0	
K 665 KI-28 DO YOU TRACE SIGNALS OF CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	3	3	0	0	0	4	3	0	
K 666 KI-29 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	7	6	20	0	0	8	6	50	FM SYSTEMS
K 667 KI-30 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	4	4	0	0	0	0	6	0	
K 668 KI-31 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	3	3	0	0	0	0	5	0	
K 669 KI-32 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	4	4	0	0	0	4	5	0	
K 670 KI-33 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	5	5	0	0	0	8	5	0	
K 671 KI-34 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	4	4	0	0	0	8	3	0	
K 672 KI-35 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	4	4	0	0	0	4	5	0	
K 673 KI-36 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	3	3	0	0	0	8	2	0	
K 674 KI-37 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	7	7	0	0	0	8	8	0	
K 675 KI-38 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	4	4	0	0	0	4	5	0	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

## UY-TSK

	UY-TSK	SPC 126	SPC 127	SPC 128	SPC 129	SPC 130	SPC 131	SPC 132	SPC 133		NUMBERING SYSTEMS
K 676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	5	5	0	0	0	0	0	0		
K 677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	7	7	0	0	0	0	0	0		
K 678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	5	5	0	0	0	0	0	0		
K 679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	5	5	0	0	0	0	0	0		
K 680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	5	5	0	0	0	0	0	0		
K 681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	4	4	0	0	0	0	0	0		
K 682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	4	4	0	0	0	0	0	0		
K 683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	5	5	0	0	0	0	0	0		
K 684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	6	6	0	0	0	0	0	0		
K 685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	85	86	60	57	100	84	89	100		
K 686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	89	90	60	71	100	88	92	100		
K 687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	88	88	80	57	100	96	87	100		
K 688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	90	90	80	57	100	96	90	100		
K 689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	91	92	80	71	100	96	92	100		
K 690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	90	91	80	57	100	96	92	100		
K 691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	85	85	80	71	100	88	84	100		
K 692	K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	68	68	60	57	83	80	63	50		
K 693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	76	76	80	71	100	88	69	100		
K 694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	79	79	80	57	83	88	77	100		
L 695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	82	82	80	71	100	84	81	100		
L 696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	59	58	80	57	63	60	55	100		LOGIC FUNCTIONS
L 697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	59	58	80	57	83	60	55	100		
L 698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR LOGIC SYMBOLS WITH STATE INDICATORS	57	56	80	57	83	52	55	100		
L 699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	57	56	80	57	83	60	52	100		
L 700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	65	64	80	57	83	60	65	100		
L 701	L1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	65	64	80	57	83	60	65	100		
L 702	L1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR LOGIC SYMBOLS WITH STATE INDICATORS	62	61	80	57	83	52	63	100		
L 703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	62	61	80	57	83	56	61	100		
L 704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	79	80	80	71	83	84	79	50		
L 705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	80	80	80	71	83	84	79	100		
L 706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	80	80	80	71	83	84	79	100		

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0Y-75X

DI-TSK	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
L 707 L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	76	76	80	71	83	84	73	100																	
L 708 L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS	68	67	80	43	67	52	76	100																	
L 709 L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	26	24	60	29	50	36	14	50																	
L 710 L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	26	23	80	14	50	36	16	100																	
L 711 L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	36	34	80	57	50	40	27	100																	
L 712 L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	67	66	80	43	67	68	68	100																	
L 713 L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	57	56	80	43	67	56	56	100																	
L 714 L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	56	55	80	43	67	52	56	100																	
L 715 L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	34	34	40	29	67	40	29	0																	
L 716 L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	30	29	60	0	67	32	27	50																	
L 717 L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	65	64	80	57	67	60	66	100																	
L 718 L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	46	44	80	29	50	46	44	100																	
L 719 L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	53	52	80	43	67	52	52	100																	
L 720 L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	51	50	80	43	67	48	50	100																	
L 721 L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	65	64	80	57	67	64	66	100																	
L 722 L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	64	63	80	43	67	64	64	100																	
L 723 L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	65	64	80	57	67	64	65	100																	
L 724 L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	63	62	80	57	67	64	61	100																	
L 725 L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	67	66	80	57	67	64	68	100																	
L 726 L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	56	55	80	57	67	46	56	100																	
L 727 L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	54	53	80	57	67	44	55	100																	
L 728 L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	54	53	80	57	67	44	55	100																	
L 729 L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	68	67	80	57	67	68	68	100																	
L 730 L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	62	61	80	57	67	56	63	100																	
L 731 L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	61	60	80	57	67	52	63	100																	
L 732 L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	43	41	80	29	67	36	42	100																	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0Y-15K

L 733 L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB  
L 734 L3-02 DO YOU USE OR REFER TO UP-COUNTERS  
L 735 L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS  
L 736 L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS  
L 737 L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS  
L 738 L3-06 DO YOU USE OR REFER TO RING COUNTERS  
L 739 L3-07 DO YOU USE OR REFER TO DECADE COUNTERS  
L 740 L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS  
L 741 L3-09 DO YOU USE OR REFER TO DOWN CLOCKS  
L 742 L3-10 DO YOU USE OR REFER TO UP CLOCKS  
L 743 L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF  
UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS  
L 744 L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF  
SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-  
FLOPS  
L 745 L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF  
DECADE COUNTERS  
L 746 L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF  
RING COUNTERS  
L 747 L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF  
SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER  
L 748 L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF  
SHIFT REGISTERS  
L 749 L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF  
OTHER TYPE OF COUNTERS  
L 750 L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT  
PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS  
L 751 L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT  
PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENT-  
ING FLIP-FLOPS  
L 752 L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT  
PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE  
REGISTERS  
L 753 L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT  
PULSES FOR OTHER TYPES OF COUNTERS  
L 754 L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF  
DECADE COUNTERS  
L 755 L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING  
COUNTERS FOR SPECIFIC INPUT PULSES  
L 756 L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY  
IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT  
L 757 M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS  
L 758 M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS  
L 759 M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGenerative  
FEEDBACK  
L 760 M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT  
REGenerative FEEDBACK



TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

## DY-TSK

	126	127	148	129	130	131	132	133	
M 761 M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	40	39	60	29	33	40	40	50	
M 762 M1-06 DO YOU USE OR REFER TO RISE TIME	67	67	60	43	67	76	66	50	
M 763 M1-07 DO YOU USE OR REFER TO FALL OR FLYPACK TIME	64	64	60	57	50	72	63	50	
M 764 M1-08 DO YOU USE OR REFER TO SWEEP TIME	80	80	80	57	67	92	79	100	
M 765 M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	65	65	60	57	67	68	65	50	
M 766 M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	71	71	60	57	50	72	74	100	
M 767 M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	60	60	60	71	33	68	58	50	
M 768 M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	64	64	60	71	33	80	60	50	
M 769 M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	45	45	40	57	17	36	50	100	USE OF SIGNAL GENERATORS
M 770 M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	43	44	20	57	17	36	48	50	
M 771 M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	39	39	40	57	0	36	42	100	
M 772 M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	38	38	40	57	0	32	42	100	
M 773 M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	27	26	40	49	0	24	29	100	
M 774 M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	30	30	40	29	17	32	31	100	
M 775 M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	33	33	40	43	17	36	32	100	
M 776 M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	26	27	0	43	17	36	23	0	
M 777 M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	20	21	0	43	0	32	16	0	
M 778 M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	31	32	20	43	0	32	34	50	
M 779 M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	67	68	40	57	50	60	74	100	
M 780 M3-02 DO YOU INSPECT MOTORS	66	67	40	57	50	64	71	100	MOTORS AND GENERATORS
M 781 M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	65	66	40	57	50	64	64	100	
M 782 M3-04 DO YOU OPERATE MOTORS	55	57	20	57	50	56	56	50	
M 783 M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	66	67	40	57	50	64	71	100	
M 784 M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	36	37	20	29	17	40	39	50	
M 785 M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	66	68	20	57	50	68	71	50	
M 786 M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	31	32	20	29	33	36	31	50	
M 787 M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	18	19	0	29	0	28	14	0	
M 788 M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	22	23	0	29	0	36	19	0	
M 789 M3-11 DO YOU PERFORM ANY TASKS ON POTIONS	27	25	0	43	0	36	21	0	
M 790 M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	35	36	20	43	17	44	34	50	
M 791 M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	27	28	0	43	17	36	24	0	
M 792 M3-14 DO YOU PERFORM ANY TASKS ON COMPUTATORS	22	23	0	29	0	32	21	0	
M 793 M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	20	21	0	49	0	32	18	0	



PCT MMS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UY-TSK

N 825 N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS  
N 826 N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT  
WAVEFORMS ACROSS REACTOR WINDINGS ON LOAD RESISTORS OF  
SINGLE WINDING SATURABLE REACTORS  
N 827 N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR  
WINDINGS ON LOAD RESISTORS OF SINGLE WINDING SATURABLE  
REACTORS

N 828 N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT  
WAVEFORMS FOR MAGNETIC AMPLIFIERS  
N 829 N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE  
REACTORS

N 830 N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN  
SATURABLE REACTORS

N 831 N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE  
REACTORS

N 832 N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN  
SATURABLE REACTORS

N 833 N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC  
SYMBOLS

N 834 N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT  
JOB

N 835 N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS  
N 836 N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)

N 837 N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)  
N 838 N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY  
(PRF)

N 839 N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS  
N 840 N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS

N 841 N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME  
CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT

N 842 N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS  
DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT  
AND OUTPUT CONFIGURATION

N 843 N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS  
N 844 N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS

N 845 U1-01 DO YOU WORK ON SINGLE-SIDEBAND SYSTEMS IN YOUR  
PRESENT JOB

N 846 U1-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS  
N 847 U1-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS

N 848 U1-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS  
N 849 U1-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE  
SYSTEMS

N 850 U1-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE  
COMPONENTS

N 851 U1-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE  
SYSTEMS

N 852 U1-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE  
COMPONENTS

SPL SPL SPL SPL SPL SPL SPL  
126 127 128 129 130 131 132 133

8 8 0 14 0 20 3 0  
8 8 0 14 0 16 5 0

8 8 0 14 0 16 5 0

9 9 0 14 0 16 6 0

4 4 0 0 0 8 3 0

7 7 0 14 0 8 6 0

6 6 0 14 0 8 5 0

5 5 0 14 0 8 3 0

9 9 0 14 0 16 6 0

62 62 60 43 33 76 61 51

32 32 40 29 17 44 29 0

58 58 60 43 17 76 56 50

50 49 60 43 17 76 42 50

50 49 60 43 17 72 44 50

50 49 60 43 17 60 46 50

59 59 60 43 33 72 54 50

42 41 60 14 17 56 40 50

20 18 60 14 0 20 19 50

51 50 80 29 33 56 52 100

42 40 80 14 17 52 40 100

2 2 0 0 0 4 2 0

1 1 0 0 0 0 2 0

2 2 0 0 0 4 2 0

1 1 0 0 0 1 2 0

1 1 0 0 0 0 2 0

1 1 0 0 0 0 2 0

WAVESHAPING  
CIRCUITS

SINGLE SIDEBAND  
SYSTEMS





# PCT MEMBERS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

### BY-TSK

	126	127	128	129	130	131	132	133
0 889 02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	10	11	0	0	0	24	8	0
0 890 02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	5	5	0	0	0	16	2	0
0 891 02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	9	9	0	0	0	20	6	0
0 892 02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	10	10	0	0	0	20	8	0
0 893 02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRON	3	3	0	0	0	8	2	0
0 894 02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	10	10	0	0	0	24	6	0
0 895 02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	3	3	0	0	0	8	2	0
0 896 02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	8	8	0	0	0	20	5	0
0 897 02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	8	8	0	0	0	24	3	0
0 898 02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	9	9	0	0	0	24	5	0
0 899 02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	10	10	0	0	0	24	6	0
0 900 02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	10	11	0	0	0	24	5	0
0 901 02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	10	10	0	0	0	24	6	0
0 902 02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	5	5	0	0	0	8	5	0
0 903 02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	9	9	0	0	0	24	5	0
0 904 02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	9	9	0	0	0	24	5	0
0 905 02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	10	11	0	0	0	24	4	0
0 906 02-32 DO YOU USE OR REFER TO PULSE SHAPE	11	12	0	0	0	24	10	0
0 907 02-33 DO YOU USE OR REFER TO PEAK POWER	11	12	0	0	0	24	10	0
0 908 02-34 DO YOU USE OR REFER TO AVERAGE POWER	10	10	0	0	0	24	6	0
0 909 02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	6	6	0	0	0	24	0	0
0 910 02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	9	9	0	0	0	24	5	0
0 911 02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	6	6	0	0	0	24	0	0
0 912 02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	7	7	0	0	0	12	6	0
0 913 02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	6	6	0	0	0	8	6	0
0 914 03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	0	0	0	0	0	0	0	0
0 915 03-02 DO YOU INSPECT ANTENNAS	0	0	0	0	0	0	0	0

ANTENNAS

# PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

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## TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING

DT-TSK

	SPC 126	SPC 127	SPC 128	SPC 129	SPC 130	SPC 131	SPC 132	SPC 133
0 916 03-03 DO YOU CLEAN ANTENNAS	0	0	0	0	0	0	0	0
0 917 03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	0	0	0	0	0	0	0	0
0 918 03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	0	0	0	0	0	0	0	0
0 919 03-06 DO YOU TROUBLESHOOT TO ANTENNAS	0	0	0	0	0	0	0	0
0 920 03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	0	0	0	0	0	0	0	0
0 921 03-08 DO YOU REMOVE OR INSTALL ANTENNAS	0	0	0	0	0	0	0	0
0 922 03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	0	0	0	0	0	0	0	0
0 923 03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	0	0	0	0	0	0	0	0
0 924 03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	0	0	0	0	0	0	0	0
0 925 03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	0	0	0	0	0	0	0	0
0 926 03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS INDUCTIVE LOADS TO THE GENERATOR	0	0	0	0	0	0	0	0
0 927 03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS TO THE GENERATOR	0	0	0	0	0	0	0	0
0 928 03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS TO THE GENERATOR	0	0	0	0	0	0	0	0
0 929 03-16 DO YOU WORK WITH HERTZ ANTENNAS	0	0	0	0	0	0	0	0
0 930 03-17 DO YOU WORK WITH MARCONI ANTENNAS	0	0	0	0	0	0	0	0
0 931 03-18 DO YOU WORK WITH BROADSIDE ARRAYS	0	0	0	0	0	0	0	0
0 932 03-19 DO YOU WORK WITH END-FIRE ARRAYS	0	0	0	0	0	0	0	0
0 933 03-20 DO YOU WORK WITH CARDIOID ARRAYS	0	0	0	0	0	0	0	0
0 934 03-21 DO YOU WORK WITH COLLINEAR ARRAYS	0	0	0	0	0	0	0	0
0 935 03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	0	0	0	0
0 936 03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	0	0	0	0	0	0	0	0
0 937 03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	0	0	0	0
0 938 03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	0	0	0	0	0	0	0	0
0 939 03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION	0	0	0	0	0	0	0	0
0 940 03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	0	0	0	0	0	0	0	0
0 941 03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	0	0	0	0	0	0	0	0
0 942 03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	0	0	0	0	0	0	0	0
0 943 03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	0	0	0	0	0	0	0	0
0 944 03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR SPECIFIC WAVELENGTHS	0	0	0	0	0	0	0	0

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

## 6Y-TSA

QY-TSK		QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC	QRC
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# PCT MBRS RESPONDING "YES" BY SELECTED GRPS

GPSUMA PAGE 35

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UY-TSK

	SPC 126	SPC 127	SPC 128	SPC 129	SPC 130	SPC 131	SPC 132	SPC 133
P 971 P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS?	3	3	0	0	0	0	2	0
P 972 P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING?	0	0	0	0	0	0	0	0
P 973 P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA?	1	1	0	0	0	4	0	0
P 974 P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES?	1	1	0	14	0	0	0	0
P 975 P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES?	0	0	0	0	0	0	0	0
P 976 P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES?	0	0	0	0	0	0	0	0
P 977 P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES?	0	0	0	0	0	0	0	0
P 978 P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES?	0	0	0	0	0	0	0	0
P 979 P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES?	0	0	0	0	0	0	0	0
P 980 P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF TRANSMISSION LINES REMAIN CONSTANT, THE ELECTRICAL LENGTH INCREASES?	1	1	0	0	0	0	2	0
P 981 P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES?	0	0	0	0	0	0	0	0
P 982 P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES?	2	2	0	0	0	0	0	0
P 983 P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING?	1	1	0	0	0	4	0	0
P 984 P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB?	0	0	0	0	0	0	0	0
P 985 P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS?	0	0	0	0	0	0	0	0
P 986 P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS?	0	0	0	0	0	0	0	0
P 987 P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS?	0	0	0	0	0	0	0	0
P 988 P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS?	0	0	0	0	0	0	0	0
P 989 P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS?	0	0	0	0	0	0	0	0
P 990 P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS?	0	0	0	0	0	0	0	0
P 991 P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS?	0	0	0	0	0	0	0	0
P 992 P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES?	0	0	0	0	0	0	0	0
P 993 P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS?	0	0	0	0	0	0	0	0
P 994 P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS?	0	0	0	0	0	0	0	0
P 995 P2-12 DO YOU REMOVE OR INSTALL E BENDS?	0	0	0	0	0	0	0	0
P 996 P2-13 DO YOU REMOVE OR INSTALL H BENDS?	0	0	0	0	0	0	0	0
P 997 P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS?	0	0	0	0	0	0	0	0
P 998 P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS?	0	0	0	0	0	0	0	0
P 999 P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS?	0	0	0	0	0	0	0	0
P1000 P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS?	0	0	0	0	0	0	0	0
P1001 P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS?	0	0	0	0	0	0	0	0
P1002 P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES?	0	0	0	0	0	0	0	0

WAVEGUIDES AND  
CAVITY RESONATORS





TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

## BY-TASK

	SPC 126	SPC 127	SPC 128	SPC 129	SPC 130	SPC 131	SPC 132	SPC 133	
P1025 P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0	0	
P1026 P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0	
P1027 P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0	
P1028 P2-45 ARE JOINTS REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0	
P1029 P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	0	0	0	0	0	0	0	0	
P1030 P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	0	0	0	0	0	0	0	0	
P1031 P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	0	0	0	0	0	0	0	0	
P1032 P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	0	0	0	0	0	0	0	0	
P1033 P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	0	0	0	0	0	0	0	0	
P1034 P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS	0	0	0	0	0	0	0	0	
P1035 P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	0	0	0	0	0	0	0	0	
P1036 P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	0	0	0	0	0	0	0	0	
P1037 P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	0	0	0	0	0	0	0	0	
P1038 P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	0	0	0	0	0	0	0	0	
P1039 P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	0	0	0	0	0	0	0	0	
P1040 P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	0	0	0	0	0	0	0	0	
P1041 P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	0	0	0	0	0	0	0	0	
P1042 P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	0	0	0	0	0	0	0	
P1043 P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	0	0	0	0	0	0	0	0	
P1044 P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	0	0	0	0	0	0	0	0	
P1045 P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0	
P1046 P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0	
P1047 P3-14 DO YOU WORK WITH MAGNETRONS	0	0	0	0	0	0	0	0	
P1048 P3-15 DO YOU INSPECT KLYSTRONS OR TWT	0	0	0	0	0	0	0	0	
P1049 P3-16 DO YOU CLEAN KLYSTRONS OR TWT	0	0	0	0	0	0	0	0	
P1050 P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	0	0	0	0	0	0	0	0	
P1051 P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	0	0	0	0	0	0	0	0	
P1052 P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	0	0	0	0	0	0	0	0	
P1053 P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	0	0	0	0	0	0	0	0	
P1054 P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	0	0	0	0	0	0	0	0	
P1055 P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	0	0	0	0	0	0	0	0	
P1056 P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0	
P1057 P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0	
P1058 P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0	

MICROWAVE  
AMPLIFIERS AND  
OSCILLATORS

# PCT MEMS RESPONDING 'YES' BY SELECTED GRPS

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## TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING

### BY-TSK

	126	127	128	129	130	131	132	133
P1059 P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1060 P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1061 P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1062 P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	0	0	0	0	0	0	0	0
P1063 P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	0	0	0	0	0	0	0	0
P1064 P3-31 DO YOU INSPECT MAGNETRONS	0	0	0	0	0	0	0	0
P1065 P3-32 DO YOU CLEAN MAGNETRONS	0	0	0	0	0	0	0	0
P1066 P3-33 DO YOU ADJUST MAGNETRONS	0	0	0	0	0	0	0	0
P1067 P3-34 DO YOU TUNE MAGNETRONS	0	0	0	0	0	0	0	0
P1068 P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	0	0	0	0	0	0	0	0
P1069 P3-36 DO YOU TROUBLESHOOT MAGNETRONS	0	0	0	0	0	0	0	0
P1070 P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	0	0	0	0	0	0	0	0
P1071 P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	0	0	0	0	0	0	0	0
P1072 P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	0	0	0	0	0	0	0	0
P1073 P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	0	0	0	0	0	0	0	0
P1074 P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	0	0	0	0	0	0	0	0
P1075 P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	0	0	0	0	0	0	0	0
P1076 P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	0	0	0	0	0	0	0	0
P1077 P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	0	0	0	0	0	0	0	0
P1078 P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	0	0	0	0	0	0	0	0
P1079 P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	0	0	0	0	0	0	0
P1080 P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	0	0	0	0	0	0	0	0
P1081 P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REFLECTOR (REFLECTOR) PLATES	0	0	0	0	0	0	0	0
P1082 P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	0	0	0	0	0	0	0	0
P1083 P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	0	0	0	0	0	0	0	0
P1084 P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	0	0	0	0	0	0	0	0
P1085 P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	0	0	0	0	0	0	0	0
P1086 P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	0	0	0	0	0	0	0	0
P1087 P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	0	0	0	0	0	0	0	0

# PCT MEMS RESPONDING \*YES\* BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

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# PCT MEMS RESPONDING 'YES' BY SELECTED GRPS

QPSUMA PAGE 40

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UY-TSK

W1116 Q1-U7 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A  
SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES  
HAVE PASSED

SPC SPC SPC SPC SPC SPC SPC SPC  
126 127 128 129 130 131 132 133  
63 64 60 43 50 76 60 100

W1117 Q2-U1 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR  
STORAGE DEVICES IN YOUR PRESENT JOB

STORAGE DEVICES

SPC SPC SPC SPC SPC SPC SPC SPC  
64 63 80 57 67 80 80 100  
84 84 80 57 67 92 85 100  
72 72 80 57 67 76 73 100  
80 80 80 57 83 92 77 100  
80 80 80 71 83 84 79 100

W1122 Q2-U6 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR  
MEMORY SYSTEMS

81 81 80 71 83 86 79 100

W1123 Q2-U7 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY  
SYSTEMS

50 51 40 29 67 68 45 50

W1124 Q2-U8 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS

64 63 80 57 67 80 56 100

W1125 Q2-U9 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES

90 91 80 86 83 92 92 100

W1126 Q3-U1 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-  
ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D)  
CONVERTERS, OR BINARY-TO-DECIMAL HEADOUT CONVERTERS

DIGITAL TO  
ANALOG CONVERTERS

52 51 80 14 67 68 47 100

W1127 Q3-U2 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL  
DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT  
VOLTAGES

30 28 80 14 17 30 27 50

W1128 Q3-U3 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE  
COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A)  
CONVERTERS IS DETERMINED BY ADDING THE DENOMINATIONS OF THE  
RESISTORS

48 46 80 14 50 60 44 100

W1129 Q3-U4 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY  
COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS

43 41 80 43 50 56 34 100

W1130 Q3-U5 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME  
ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

46 44 80 43 67 56 37 100

W1131 Q3-U6 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME  
ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

43 41 80 29 50 56 35 100

W1132 Q3-U7 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE  
TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

33 32 60 43 50 40 26 50

W1133 Q3-U8 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE  
TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

25 26 0 14 33 20 29 0

W1134 Q3-U9 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS  
ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER  
CIRCUITS

50 48 80 43 67 68 39 100

W1135 Q3-U10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D  
CONVERTERS

50 49 80 43 83 68 30 100

W1136 Q3-U11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D  
CONVERTERS

52 51 80 29 83 72 42 100

W1137 Q3-U12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D  
CONVERTERS

40 59 80 57 83 80 43 100

W1138 Q3-U13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D  
CONVERTERS

39 40 20 14 33 60 35 50

W1139 Q3-U14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-  
DIGITAL (A/D) CONVERTERS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

U Y - I S K

[illegible]









# PCT MARS RESPONDING 'YES' BY SELECTED GRPS.

GP SUMA PAGE 44

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

BY-TSK

	126	127	128	129	130	131	132	133
U149 U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES	76	76	80	43	67	84	77	100
U150 U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	74	74	80	43	67	80	76	100
U151 U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	64	63	80	29	67	76	61	100
U152 U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	70	70	60	43	67	80	69	100
U153 U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	77	77	80	43	67	84	79	100
U154 U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	78	78	80	43	67	84	81	100
U155 U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	12	13	0	14	0	20	11	0
U156 U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	4	4	0	0	0	8	3	0
U157 U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	5	5	0	14	0	8	3	0
U158 U2-04 DUMMY TASK TO IDENTIFY INCUMBENTS WHO PERFORMED NO TASKS	1	1	0	14	0	0	0	0

DB AND POWER  
RATIOS

RUNID: BTUIMP ACCT: 6568 PROJECT: BY  
O-BTOIMPMSG: HERE COMES THAT 275 PAGE REPORT FOR CAMERA CPY  
U OR DAVID  
TIME: TOTAL: 00:01:43.850 CRSUPS: 003623002  
C/PJ: 00:01:07.919 I/G: 00:01:10.394  
CC/ER: 00:00:25.595 WAIT: 00:00:01.395  
IMAGES READ: 4 PAGES: 278  
START: 07:46:36 AUG 18, 1977 FIN: 07:48:44 AUG 18, 1977

AD-A047 545

AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9  
DIGITAL NAVIGATION/TACTICS TRAINING DEVICES SPECIALIST AFSC 341--ETC(U)  
AUG 77 T J O'CONNOR, F B BOWER

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A047 545

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFPT 90-341-222	2. GOVT ACCESSION NO. AD A047 545 / 4507	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Digital Navigation/Tactics Training Devices Specialist AFSC 34156		5. TYPE OF REPORT & PERIOD COVERED FINAL Apr 77 - Jun 77
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)  Thomas J. O'Connor Frederick B. Bower, Jr.		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Occupational Survey Branch USAF Occupational Measurement Center Lackland AFB TX 78236		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS  N/A
11. CONTROLLING OFFICE NAME AND ADDRESS  SAME AS ITEM 9		12. REPORT DATE 25 Aug 77
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Electronic principles      Electronics Basic electronics      Air Force training Avionics      Teaching methods Electronic equipment      Training Electronic technicians		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Digital Navigation/Tactics Training Devices Specialist (AFSC 34156). The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder.  4022      CONTINUED		

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This specialty has the following functions:

Inspects, installs, operates, maintains, repairs, and modifies digital navigation/tactics training devices and associated subsystems. Performs preventive maintenance on digital navigation/tactics training devices. Installs, troubleshoots, repairs, and modifies digital navigation/tactics training devices. Operates digital navigation/tactics training devices. Supervises digital navigation/tactics training devices personnel.

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